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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,309	09/17/2003	H. William Morgan	135-104 Filter	4336

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EXAMINER	
AFTERGUT, JEFF H	
ART UNIT	**PAPER NUMBER**
1733	

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/664,309	MORGAN ET AL.	
	Examiner	Art Unit	
	Jeff H. Aftergut	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *10 and 11* is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, 6, 7, and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Pall et al '901 in view of Vogt et al '798 or alternatively Vogt et al '798 in view of Pall et al '901 either one of which is optionally further taken with either one of Hershelman or Braun.

Pall et al '901 suggested that it was known at the time the invention was made to employ a mandrel and a fiber deposition device in order to form a filter. The reference more specifically suggested that it was known at the time the invention was made to form a nonwoven web which was subsequently wound upon a mandrel by extruding microfibers 14 from a die 10 wherein the fibers were formed from a molten resin and the same issued from the die with fiberizing air pressure. The reference to Pall et al '901 additionally suggested that the fibers 14 issuing from the die 10 were directed to a forming roller 15. Adjacent the forming roller 15 was a mandrel 16 which was reciprocated. The reference additionally suggested that fibers collected upon the forming roller 15 were then transferred onto the mandrel where the filter was formed. The reference also suggested that one skilled in the art would have incorporated activated carbon in the filter as desired where the activated carbon would have been deposited into the stream of fibers prior to laydown, column 9, lines 61-66. Pall et al

'901 also suggested that the roller 15 was used to press the fibrous material against the mandrel by virtue of the fact that the same was biased against the mandrel. The reference to Pall et al '901 clearly suggested that one skilled in the art would have diverted the feed path of the filaments and the air at a local which was different from the mandrel prior to introduction of the fibrous mass onto the mandrel. The reference failed to suggest that the activated carbon would have been introduced into the fibrous mass subsequent to the diverting of the feed path.

However, in the art of making a filter, it was notoriously well known at the time the invention was made to apply activated carbon onto the plastic fibers after the same were diverged from their path (which included projection of the filaments with air) as evidenced by Vogt et al '798. More specifically, Vogt et al '798 suggested that those skilled in the art would have incorporated activated carbon 34 supplied from hopper 32 and deposited the same upon the filaments 22 after the filaments 22 have been wound upon the mandrel 24. The reference suggested that those skilled in the art would have included a back-up roller 28 for pressing upon the mandrel 24 in the manufacture of the filter in much the same manner that Pall et al employed the forming surface 15 for pressing against the mandrel 16 therein. The applicant is advised that the reference to Vogt et al clearly applied the carbon particles upon the fiber subsequent to diversion from their path of travel. Like Pall, the fibers were disposed upon the mandrel with a second roller 28. Clearly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the techniques of Vogt et al '798 to apply the carbon onto the fibers after the same were diverted upon a first roller and wherein the

same would have been wound upon a mandrel according to the techniques of Pall et al '901. Additionally, the applicant is advised that it would have been obvious to one of ordinary skill in the art to divert the web from the first forming surface and onto a mandrel as such would have been viewed as an alternative winding technique as suggested by Pall et al '901 in the process of making a filter according to the techniques of Vogt et al '798.

With regard to claim 6, both references suggested the use of carbon as the active material. Regarding claims 7 and 8, both references suggested that a plastic material be employed in the operation and both suggested that the plastic would have included polypropylene. Regarding claims 10 and 13, note that the reference to Vogt clearly applied the particles to the fiber of the meltblown web after the fibers were different from their path and that the fiber path was provided with the use of an air stream. Diversion from the path therefore would have been an interruption in the airflow exiting the dispensing nozzle.

While the references as set forth above suggested that one skilled in the art would have incorporated the carbon particles in the filter material between the location of the change in direction of the stream of fibers and the mandrel, to further evidence the same, the references to Hershelman or Braun are cited. The reference to Hershelman suggested that those skilled in the art of making a filter assembly would have formed nonwovens from meltblown fibers which were then diverted upon a forming belt. The reference taught that the carbon particles were added to the meltblown web after the web was diverted as depicted in Figure 2 where the particles 56 were not

disposed into the meltblown web until after the web issuing from die 22 had been diverted on the belt. Clearly, the incorporation of the carbon particles into the meltblown web would have been performed subsequent to diverting of the web as suggested by Hershelman as such would have better entrapped the active carbon material. The reference to Braun suggested that entrapment of activated carbon was possible by dispensing the activated carbon into a diverted stream of meltblown fibers. More specifically, streams 14 and 15 are diverted at their point of intersection. The active carbon particle stream 20 was fed to this point of intersection to allow for entrapment of the particles in the meltblown streams. While applicant might argue that this is at the location of the diversion of the path, the language of the claims "between the location of diversion and the mandrel" included the location of the diversion (in a similar manner when one says that between 4-8 players are necessary for a game to be played the game can be played with 4 or 8 players (i.e. it includes the endpoints)). It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the techniques of Hershelman or Braun in order to incorporate the carbon particles in the meltblown webs when practicing the processes of Vogt et al '798 and Pall et al '901.

3. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references as set forth above in paragraph 2 further Harwood et al.

While the references as set forth above in paragraph 2 suggested the formation of a nonwoven filter core, there is no indication that one skilled in the art would have covered the same with an exterior cover layer and subsequently removed the core from

the mandrel. However, it was well known at the time the invention was made to provide an exterior covering to the filter of microfibers with carbon particles therein as evidenced by Harwood. The reference to Harwood suggested that those skilled in the art would have incorporated an exterior covering 12 which was wrapped about the core. Such was used to increase the structural integrity of the finished filter assembly. Additionally, while the reference did not expressly state that the wrapping operation took place upon a mandrel, wrapping a heated strip and overlapping the same was known and taken as conventional in the art. Additionally, in the art of making a covered filter, it was known per se to continuously form the filter in a cylindrical form and sever the desired lengths after removal from the mandrel. Because it would have increased the strength of the filter element (see column 2, lines 20-26), it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the exterior wrap of Harwood when making a filter element of the type as described above in paragraph 2 wherein the filter element included microfibers and activated carbon therein.

Double Patenting

4. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

5. Claims 1-9 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-9 of prior U.S. Patent No. 6,921,448. This is a double patenting rejection.

Allowable Subject Matter

6. Claims 10 and 11 are allowed.

None of the prior art suggested a roller arrangement as defined which included feeding a molten base material between the pair of spaced rollers by an air flow and closing the rollers about the strands to interrupt the flow of air followed by deposition of active material upon the strands between the rollers and the mandrel while the rollers are closed about the strands in the manufacture of a filtration unit. It should be noted that it was known to deflect the air which propelled the strands prior to introduction of the active material as suggested by Morgan '871 (pregrant publication), however none of the prior art suggested deflection of the air with a roller pair arranged in the manner claimed. The reference to Tanaka et al suggested the deflection of the air with baffles in the melt spinning process described therein. The reference to German Patent 4016348 suggested various laminating operation wherein the melt spinning nozzle could be oriented at various positions in the spinning operation but failed to teach the specific roller arrangement.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeff H. Aftergut
Primary Examiner
Art Unit 1733

JHA
November 21, 2005